This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

## 1. (Original) A compound of the formula

## wherein

 $R_1$  is  $C_1$ - $C_6$  alkyl, a W-( $CH_2$ )<sub>m</sub>- group, or a Q-Z-( $CH_2$ )<sub>m</sub>- group wherein W is phthalimido; Z is a bond or is oxy,  $NR_6$ ,  $C(O)NR_6$ ,  $NR_6C(O)$ ,  $NHC(O)NR_6$ ,  $OC(O)NR_6$ , HNC(O)O, or  $SO_2NR_6$ ; Q is hydrogen, or a Y-( $CH_2$ )<sub>n</sub>- group wherein Y is hydrogen,  $C_6$ - $C_{10}$  aryl,  $C_3$ - $C_9$  heteroaryl, -  $C(O)OR_6$ , - $N(R_6)_2$ , morpholino, piperidino, pyrrolidino, or isoindolyl;

R<sub>2</sub> is  $C_1$ - $C_4$  alkyl, a -( $CH_2$ )<sub>p</sub>-( $C_3$ - $C_9$ )heteroaryl group, or a -( $CH_2$ )<sub>p</sub>- $Ar_1$  group wherein  $Ar_1$  is phenyl or naphthyl optionally substituted with a substituent selected from the group consisting of halogen,  $C_1$ - $C_4$  alkyl, - $OR_7$ , - $N(R_6)_2$ ,  $SO_2N(R_6)_2$  or - $NO_2$ ;

 $R_3$  is hydrogen,  $C_1$ - $C_6$  alkyl,  $-CH_2SCH_2NHCOCH_3$ , a  $-(CH_2)_p$ -A group, a  $-(CH_2)_m$ -B group or a  $-CH_2$ -D- $R_7$  group wherein A is  $C_6$ - $C_{10}$  aryl,  $C_3$ - $C_9$  heteroaryl, or cyclohexyl; B is  $-N(R_7)_2$ , guanidino, nitroguanidino,  $-C(O)OR_6$  or  $-C(O)NR_6$ ; and D is oxy or thio;

 $R_4$  is hydrogen or a -(CH<sub>2</sub>)<sub>m</sub>-S(O)<sub>p</sub>X'(R<sub>6</sub>)<sub>2</sub> group;

R<sub>5</sub> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl or R<sub>4</sub> and R<sub>5</sub> taken together with the nitrogen atom to which they are attached form piperidino, pyrrolidino, or isoindolyl;

 $R_6$  is hydrogen or  $C_1$ - $C_6$  alkyl;

R<sub>7</sub> is hydrogen, C<sub>1</sub>-C<sub>4</sub> alkyl, or a -(CH<sub>2</sub>)<sub>p</sub>-Ar<sub>2</sub> group wherein Ar<sub>2</sub> is phenyl or naphthyl optionally substituted with a substituent selected from the group consisting of halogen, C<sub>1</sub>-C<sub>4</sub> alkyl, -OR<sub>7</sub>, -N(R<sub>6</sub>)<sub>2</sub>, SO<sub>2</sub>N(R<sub>6</sub>)<sub>2</sub> or -NO<sub>2</sub>;

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 $R_8$  is hydrogen, -C(O)R<sub>7</sub>, a -C(O)-(CH<sub>2</sub>)<sub>q</sub>-K group or a -S-G group, wherein K is selected from the group consisting of

$$-N \longrightarrow , -N \longrightarrow ,$$

G is selected from the group consisting of

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$$(CH_2)_W$$
 $R_{13}$ 

$$(CH_2)_w$$
  $V_1$ 

$$(CH_2)_W$$
  $R_{14}$ 

$$(CH_2)_W$$
 NHR<sub>15</sub>  $CO_2R_{16}$  , and

 $R_9$  and  $R_{10}$  are each independently  $C_1$ - $C_4$  alkyl or a -( $CH_2$ )<sub>p</sub>- $Ar_2$  group;

 $R_{11}$  is -CF<sub>3</sub>,  $C_1$ - $C_{10}$  alkyl or a -(CH<sub>2</sub>)<sub>p</sub>-Ar<sub>2</sub> group;

R<sub>12</sub> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, -CH<sub>2</sub>CH<sub>2</sub>S(O)<sub>p</sub>CH<sub>3</sub>, or arylalkyl;

R<sub>13</sub> is hydrogen, hydroxy, amino, C<sub>1</sub>-C<sub>6</sub> alkyl, N-methylamino, N,N-dimethylamino,
-CO<sub>2</sub>R<sub>17</sub> or -OC(O)R<sub>18</sub> wherein R<sub>17</sub> is hydrogen, -CH<sub>2</sub>O-C(O)C(CH<sub>3</sub>)<sub>3</sub>, C<sub>1</sub>-C<sub>4</sub> alkyl, a
-(CH<sub>2</sub>)<sub>p</sub>-Ar<sub>2</sub> group or diphenylmethyl and R<sub>18</sub> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl or phenyl;

 $R_{14}$  is 1 or 2 substituents independently chosen from the group consisting of hydrogen,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy, or halogen;

R<sub>15</sub> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl or a -(CH<sub>2</sub>)<sub>p</sub>-Ar<sub>2</sub> group;

R<sub>16</sub> is hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl;

V<sub>1</sub> is O, S, or NH;

V<sub>2</sub> is N or CH;

 $V_3$  is a bond or -C(O)-;

 $V_4$  is -(CH<sub>2</sub>)<sub>w</sub>'-, O, S, NR<sub>7</sub>, or NC(O)R<sub>11</sub>;

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- X and X' are each independently CH or N;
- m is an integer 2-4;
- n is zero or an integer 1-4;
- p is zero or an integer 1-2;
- q is zero or an integer 1-5;
- t is an integer 1-2;
- w is an integer 1-3; and
- w' is zero or an integer 1; or
- a pharmaceutically acceptable salt, stereoisomer or hydrate thereof.
  - 2. (Original) A compound of claim 1 wherein X is CH.
- 3. (Original) A compound of claim 2 wherein  $R_2$  is  $C_1$ - $C_4$  alkyl or a - $(CH_2)_p$ -Ar group wherein Ar is phenyl optionally substituted with F, Cl,  $C_1$ - $C_4$  alkyl, -NO<sub>2</sub>, -NH<sub>2</sub> or -OR<sub>7</sub>; and R<sub>4</sub> is hydrogen.
- 4. (Currently Amended) A compound of claim 3 wherein R<sub>3</sub> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, benzyl, 1-naphthyl, 2-naphthyl, cyclohexylmethyl, 2-hydroxyphenyl, 3-hydroxyphenyl, 4-hyroxyphenyl, 2,3-dihydroxyphenyl, 2,4-dihydroxyphenyl, 3,4-dihydroxyphenyl, 4-methoxyphenyl, 4-ethoxyphenyl, 2-chlorophenyl, 3-chlorophenyl, 4-chlorophenyl, 3,4-difluorophenyl, 3,4-difluorophenyl, 3-tolyl, 4-tolyl, 4-ethylphenyl, 4-isopropylphenyl, 3-aminophenyl, 4-aminophenyl, 3,4-diaminophenyl, N-methyl-4-aminophenyl, 2-nitrophenyl, 4-nitrophenyl, 4-aminobenzyl, 4-hydroxybenzyl, 4-methoxybenzyl, 3-chlorobenzyl, 4-fluorobenzyl, 3,4-dichlorobenzyl, 4-bromobenzyl, 4-methylbenzyl, [-CH<sub>2</sub>SCH<sub>2</sub>NHCOCH<sub>3</sub>,] or is a compound of the formula

Н

Н

, or

5. (Original) A compound of claim 4 wherein  $R_5$  is hydrogen, methyl, ethyl, propyl, isopropyl, butyl or isobutyl and  $R_8$  is hydrogen.

Н

- 6. (Original) A compound of claim 2 wherein  $R_1$  is a W-( $CH_2$ )<sub>m</sub>- group.
- 7. (Original) A compound of claim 3 wherein  $R_1$  is a W-( $CH_2$ )<sub>m</sub>- group.
- 8. (Original) A compound of claim 5 wherein  $R_1$  is a W-( $CH_2$ )<sub>m</sub>- group.
- 9. (Original) A compound of claim 2 wherein  $R_1$  is  $C_1$ - $C_6$  alkyl.
- 10. (Original) A compound of claim 3 wherein  $R_1$  is  $C_1$ - $C_6$  alkyl.

- 11. (Original) A compound of claim 5 wherein  $R_1$  is a  $C_1$ - $C_6$  alkyl.
- 12. (Original) A compound of claim 2 wherein  $R_1$  is a Q-Z-( $CH_2$ )<sub>m</sub>- group.
- 13. (Original) A compound of claim 3 wherein  $R_1$  is a Q-Z-(CH<sub>2</sub>)<sub>m</sub>- group.
- 14. (Original) A compound of claim 5 wherein  $R_1$  is a Q-Z- $(CH_2)_{m}$  group.
- 15. (Original) A compound of claim 1 wherein X is N.
- 16. (Original) A compound of claim 15 wherein  $R_2$  is  $C_1$ - $C_4$  alkyl or a - $(CH_2)_p$ -Ar group wherein Ar is phenyl optionally substituted with F, Cl,  $C_1$ - $C_4$  alkyl, -NO<sub>2</sub>, -NH<sub>2</sub> or -OR<sub>8</sub>; and R<sub>4</sub> is hydrogen.
- 17. (Currently Amended) A compound of claim 16 wherein R<sub>3</sub> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, benzyl, 1-naphthyl, 2-naphthyl, cyclohexylmethyl, 2-hydroxyphenyl, 3-hydroxyphenyl, 4-hyroxyphenyl, 2,3-dihydroxyphenyl, 2,4-dihydroxyphenyl, 3,4-dihydroxyphenyl, 4-methoxyphenyl, 4-ethoxyphenyl, 2-chlorophenyl, 3-chlorophenyl, 4-chlorophenyl, 3,4-difluorophenyl, 3,4-difluorophenyl, 3-tolyl, 4-tolyl, 4-ethylphenyl, 4-isopropylphenyl, 3-aminophenyl, 4-aminophenyl, 3,4-diaminophenyl, N-methyl-4-aminophenyl, 2-nitrophenyl, 4-nitrophenyl, 4-aminobenzyl, 4-hydroxybenzyl, 4-methoxybenzyl, 3-chlorobenzyl, 4-fluorobenzyl, 3,4-dichlorobenzyl, 4-bromobenzyl, 4-methylbenzyl, [-CH<sub>2</sub>SCH<sub>2</sub>NHCOCH<sub>3</sub>,] or is a compound of the formula

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- 18. (Original) A compound of claim 17 wherein  $R_5$  is hydrogen, methyl, ethyl, propyl, isopropyl, butyl or isobutyl and  $R_8$  is hydrogen.
  - 19. (Original) A compound of claim 16 wherein  $R_1$  is a W-(CH<sub>2</sub>)<sub>m</sub>- group.
  - 20. (Original) A compound of claim 17 wherein  $R_1$  is a W-(CH<sub>2</sub>)<sub>m</sub>- group.
  - 21. (Original) A compound of claim 19 wherein R<sub>1</sub> is a W-(CH<sub>2</sub>)<sub>m</sub>- group.
  - 22. (Original) A compound of claim 16 wherein  $R_1$  is  $C_1$ - $C_6$  alkyl.
  - 23. (Original) A compound of claim 17 wherein  $R_1$  is  $C_1$ - $C_6$  alkyl.

- 24. (Original) A compound of claim 19 wherein  $R_1$  is a  $C_1$ - $C_6$  alkyl.
- 25. (Original) A compound of claim 16 wherein  $R_1$  is a Q-Z-( $CH_2$ )<sub>m</sub>- group.
- 26. (Original) A compound of claim 17 wherein  $R_1$  is a Q-Z-( $CH_2$ )<sub>m</sub>- group.
- 27. (Original) A compound of claim 19 wherein  $R_1$  is a Q-Z-( $CH_2$ )<sub>m</sub>- group.
- 28. (Original) A compound of claim 1 wherein X is CH;  $R_2$  is phenyl, methyl or ethyl;  $R_3$  is phenyl, benzyl, cyclohexylmethyl, isopropyl, isobutyl, 3-pyridylmethyl, 4-fluorobenzyl or 4-aminobenzyl;  $R_4$  is hydrogen;  $R_5$  is hydrogen, methyl, ethyl, propyl, isopropyl, butyl or isobutyl and  $R_8$  is hydrogen.
  - 29. (Original) A compound of claim 28 wherein R<sub>1</sub> is a W-(CH<sub>2</sub>)<sub>m</sub>- group.
- 30. (Original) A compound of claim 1 wherein X is N;  $R_2$  is phenyl, methyl or ethyl;  $R_3$  is phenyl, benzyl, cyclohexylmethyl, isopropyl, isobutyl, 3-pyridylmethyl, 4-fluorobenzyl or 4-aminobenzyl;  $R_4$  is hydrogen;  $R_5$  is hydrogen, methyl, ethyl, , propyl, isopropyl, butyl or isobutyl and  $R_8$  is hydrogen.
  - 31. (Original) A compound of claim 30 wherein  $R_1$  is a W-(CH<sub>2</sub>)<sub>m</sub>- group.
- 32. (Original) A compound of claim 1 wherein said compound is 2H-Isoindole-2-hexanamide, N-[hexahydro-1-[2-(methylamino)-2-oxo-1-(phenylmethyl)ethyl]-2-oxo-5-phenyl-1H-azepin-3-yl]-1,3-dihydro- $\alpha$ -mercapto-1,3-dioxo-, [3S-[1(R\*), 3 $\alpha$ , 5 $\alpha$ ]]-.

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- 33. (Original) A compound of claim 1 wherein said compound is 2H-Isoindole-2-hexanamide, N-[hexahydro-1-[2-(methylamino)-2-oxo-1-(phenylmethyl)ethyl]-2-oxo-5-phenyl-1H-azepin-3-yl]-1,3-dihydro- $\alpha$ -mercapto-1,3-dioxo-, [3S-[1(R\*), 3 $\alpha$ , 5 $\beta$ ]]-.
- 34. (Original) A compound of claim 1 wherein said compound is 2H-Isoindole-2-hexanamide, N-[hexahydro-4-[2-(methylamino)-2-oxo-1-(phenylmethyl)ethyl]-5-oxo-1-(phenylmethyl)-1H-1,4-diazepin-6-yl]-1,3-dihydro- $\alpha$ -mercapto-1,3-dioxo-, [6S-[4(R\*), 6R\*(R\*)]]-.
- 35. (Original) A pharmaceutical composition comprising a compound of claim 1 and a pharmaceutically acceptable carrier.
- 36. (Original) A method of inhibiting matrix metalloproteinase in a patient in need thereof which comprises administering to the patient an effective matrix metalloproteinase inhibiting amount of a compound of claim 1.
- 37. (Original) A method of inhibiting MMP-induced tissue disruption and/or MMP-induced tissue degradation in a patient in need thereof which comprises administering to the patient and effective matrix metalloproteinase inhibiting amount of a compound of claim 1.
- 38. (Original) A method of treating rheumatoid arthritis in a patient in need thereof which comprises administering to the patient an effective matrix metalloproteinase inhibiting amount of a compound of claim 1.
- 39. (Original) A method of treating osteoarthritis in a patient in need thereof which comprises administering to the patient an effective matrix metalloproteinase inhibiting amount of a compound of claim 1.

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- 40. (Original) A method of treating a chronic inflammatory disorder in a patient in need thereof which comprises administering to the patient an effective matrix metalloproteinase inhibiting amount of a compound of claim 1.
- 41. (Original) A method of treating a neoplastic disease state in a patient in need thereof which comprises administering to the patient an effective matrix metalloproteinase inhibiting amount of a compound of claim 1.
- 42. (Original) A method of treating a cardiovascular disorder in a patient in need thereof which comprises administering to the patient an effective matrix metalloproteinase inhibiting amount of a compound of claim 1.
- 43. (Original) A method of claim 42 wherein said cardiovascular disorder is atherosclerosis.
- 44. (Original) A method of treating corneal ulceration in a patient in need thereof which comprises administering to the patient an effective matrix metalloproteinase inhibiting amount of a compound of claim 1.
- 45. (Original) A method of treating gingivitis or periodontal disease in a patient in need thereof which comprises administering to the patient an effective matrix metalloproteinase inhibiting amount of a compound of claim 1.
- 46. (Original) A method of treating multiple sclerosis in a patient in need thereof which comprises administering to the patient an effective matrix metalloproteinase inhibiting amount of a compound of claim 1.

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47. (Original) A method of treating chronic obstructive pulmonary disorder in a patient in need thereof which comprises administering to the patient an effective matrix metalloproteinase inhibiting amount of a compound of claim 1.